

Appl. No. 09/783,835

Amendments to the Claims

Claims 1-52 (Cancelled).

53. (Currently amended) A physical vapor deposition target consisting essentially of an alloy of copper and one or more other elements, the one or more other elements being present in the alloy at a total concentration from less than 1.0 at% to 0.001 at% and consisting of Tc and optionally one or more member selected from the group consisting of Mo, Re, and Ti.

54. (Original) The physical vapor deposition target of claim 53 wherein the one or more other elements are present in the alloy at a total concentration at from 0.005 at% to 0.1 at%.

55. (Original) The physical vapor deposition target of claim 53 comprising an RF sputtering coil.

Claims 56-59 (Cancelled).

60. (Previously presented) The physical vapor deposition target of claim 53 wherein the one or more elements includes Mo.

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61. (Previously presented) The physical vapor deposition target of claim 53 wherein the one or more elements includes at least two elements.

62. (Previously presented) The physical vapor deposition target of claim 53 wherein the one or more elements includes Re.

63. (Previously presented) The physical vapor deposition target of claim 53 wherein the one or more elements includes Ti.

64. (Previously presented) The physical vapor deposition target of claim 53 wherein the one or more other elements are elemental precipitates in the alloy microstructure.

65. (Previously presented) The physical vapor deposition target of claim 53 wherein the average grain size is less than or equal to about 20 micrometers.

66. (Currently amended) A physical vapor deposition target ~~consisting essentially of a copper alloy, the alloy consisting of copper having a purity of 99.9998% alloyed with a total concentration of other elements of from less than 1.0 at% to 0.001 at%, the other elements being selected from the group consisting of Tc, Ti, Re, and Mo, one of the other elements being Tc.~~

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67. (Previously presented) The physical vapor deposition target of claim 66 wherein the copper alloy comprises an average grain size and comprises an electromigration resistance higher than the electromigration resistance of copper having a purity of greater than 99.999% of the same average grain size.

68. (Previously presented) The physical vapor deposition target of claim 66 wherein the copper alloy comprises an average grain size and comprises a thermal stability to grain size retention that is higher than the thermal stability to grain size retention of copper having a purity of greater than 99.999% of the same average grain size.

69. (Previously presented) The physical vapor deposition target of claim 66 comprising three or fewer of the other elements.